



HELPING OUR MEMBERS WORK TOGETHER  
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE.

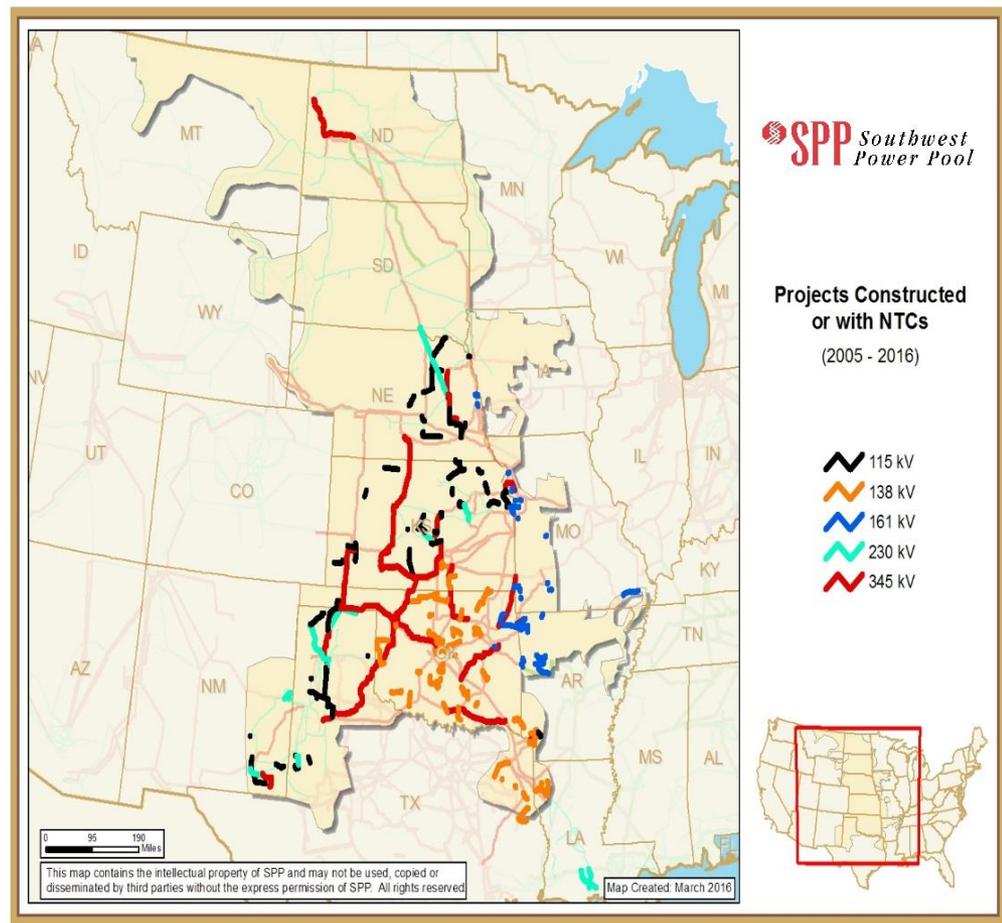
# Resource Adequacy

# Outline

- Background
- Revision Request 187
- Attachment AA
  - Planning Reserve Margin
  - Summer Season Resource Adequacy Requirement
  - Final Report
  - Post-Season Analysis

# Drivers for New Policy

- Significant transmission expansion in place
- Expanding footprint and operational changes
- SPP became the Balancing Authority in March 2014
- Capacity margin requirement unchanged since 1998



# Recommended Policies



These policies were developed by a broad stakeholder group that included regulators and were approved by SPP's MOPC, Board, and the RSC in April 2016.

# SPP's Proposed Policy Package

- Four primary areas of policy development:
  - Planning Reserve Margin Requirement
  - Load Responsible Entity
  - Planning Reserve Assurance Policy
  - Deliverability Study
- These policies identify who is responsible for resource adequacy, what the resource adequacy requirement is, and how and when the resource adequacy requirement can and should be met
- The policies are dependent on each other to yield the intended economic and reliability benefits



# Recap of Approved Policies

## Load Responsible Entity

- Entities with load-serving obligations in the SPP Balancing Authority will be responsible for complying with SPP's resource adequacy requirement
- LRE is an asset owner in the Integrated Marketplace for load or firm power transactions
- Market Participant is responsible to ensure the LRE's compliance

## Reserve Margin Requirement

- Will utilize Reserve Margin terminology rather than Capacity Margin
- Set SPP's Planning Reserve Margin at 12% while maintaining current hydro-based exception at 9.89%

# Recap of Approved Policies

## Planning Reserve Assurance Policy

- Created mechanism that utilizes payments to provide compensation to LREs in SPP that have excess capacity from LREs who are capacity deficient
- Payment scaled based on the potential for reduced reliability in SPP

## Deliverability Study

- Gave LREs an option to use “deliverable” capacity on short-term basis for meeting the PRM, in lieu of requiring firm transmission service
- Firm transmission service still required for load and can also be used to meet the PRM if an LRE wants to maintain Auction Revenue Rights

# Resource Adequacy Terminology

- Resource adequacy for planning purposes is generally expressed in terms of capacity margin or reserve margin
- Resource adequacy requirements are intended to ensure sufficient capacity is planned to meet future needs during normal and emergency conditions
- SPP has historically expressed its requirements as “Capacity Margin” while NERC and other regions typically use “Reserve Margin”

- $$\text{Capacity Margin}(\%) = \frac{\text{Net Total Capacity} - \text{Net Total Load}}{\text{Net Total Capacity}}$$

- $$\text{Reserve Margin}(\%) = \frac{\text{Net Total Capacity} - \text{Net Total Load}}{\text{Net Total Load}}$$

- Attachment AA uses Planning Reserve Margin terminology

# Revision Request 187

- Approved by the MOPC and the BOD at their January 2017 meetings
- Filed Tariff revisions on March 3, 2017 requesting effective dates of June 1, 2017 and July 1, 2017 (ER17-1098)
  - June 1, 2017 effective date for sections of Attachment AA excluding Section 13.0
  - July 1, 2017 effective date for Attachment AA Section 13.0
- Comments and protests were received and SPP answered on April 18, 2017
- Deficiency letter was received on May 31, 2017 and SPP answered on June 30, 2017

# Planning Reserve Margin

- A Loss of Load Expectation (LOLE) Study will be performed by SPP biennially to determine the Planning Reserve Margin (PRM)
  - Analyzes the ability of SPP to reliably serve the SPP Balancing Authority Area's forecasted Peak Demand
  - Inputs and assumptions used for the LOLE Study will be developed by SPP with input from the stakeholders
- Based on the initial LOLE Study, the PRM is 12%
  - If an LRE's Firm Capacity is comprised of at least 75% hydro-based generation, then the PRM is 9.89%
- A change to the PRM will not be made absent a filing with FERC

# Resource Adequacy Requirement

- The Resource Adequacy Requirement (RAR) requires an LRE to maintain enough capacity to meet its PRM in addition to its Summer Season Net Peak Demand
- The LRE is responsible to meet the RAR for the Summer Season
  - Capacity shortfall will result in a Deficiency Payment
- Load and Resources that are pseudo-tied in will be considered internal to the SPP Balancing Authority Area for purposes of determining the RAR
- An LRE with load both internal and external to the SPP Balancing Authority Area is required to maintain distinct and separate amounts of Resources to cover applicable planning reserve obligations

# Final Report

- Annually by June 15th, SPP will post its final report on the status of each LRE's compliance with the Resource Adequacy Requirement for the upcoming Summer Season and whether the respective Market Participant is subject to the Deficiency Payment
- Data originates from LRE and Generator Owner submitted Workbooks
- Assesses resource adequacy across the SPP Balancing Authority (BA) for the upcoming Summer Season
- Provides a five-year outlook at the BA level and the individual LRE level

# Final Report – June 2017

Load Responsible Entity	Met Resource Adequacy Requirement					
	2017	2018	2019	2020	2021	2022
Carthage Water & Electric Plant	NO	NO	NO	NO	NO	NO
City of Malden Board of Public Works	YES	YES	YES	YES	YES	YES
City of Poplar Bluff Municipal Utilities	YES	YES	YES	YES	YES	YES
City of West Plains Board of Public Works	YES	YES	YES	YES	YES	YES
City Utilities of Springfield	YES	YES	YES	YES	YES	YES
Empire District Electric Company	YES	YES	YES	YES	YES	YES
Greater Missouri Operations Company (KCP&L)	YES	YES	NO	NO	NO	NO
Independence Power & Light	YES	YES	YES	YES	YES	YES
Kansas City Power & Light	YES	YES	YES	YES	YES	YES
Kennett Board of Public Works	YES	YES	YES	YES	YES	YES
Missouri Joint Municipal Electric Utility Commission	YES	YES	YES	YES	YES	YES
People's Electric Cooperative	YES	YES	YES	YES	YES	YES
Westar Energy	YES	YES	YES	YES	YES	YES

# Post-Season Analysis

- SPP will conduct a post-Summer Season analysis to compare the LRE's actual Summer Season Net Peak Demand versus the LRE's planning forecast
- Used to evaluate, at a minimum, LRE's planning forecast consistency and develop further improvements for the resource adequacy process
- Supply Adequacy Working Group will refer cases of potential discrepancies to the Markets and Operations Policy Committee for further investigation and action